



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/266,813	03/12/1999	HIROKO SATOH	P63431USO	6268

7590 07/02/2002  
JACOBSON, PRICE, HOLMAN & STERN  
THE JENNIFER BUILDING  
400 SEVENTH STREET N W  
WASHINGTON, DC 20004

EXAMINER
----------

SHEINBERG, MONIKA B

ART UNIT	PAPER NUMBER
----------	--------------

1631

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/266,813

Examiner

Monika B Sheinberg

Applicant(s)

SATOH ET AL.

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 4/15/2002.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 14-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

---

**DETAILED ACTION**

***Response to Amendment A and B***

Applicants' arguments, filed: 05 November 2001 and 15 April 2002, have been fully considered by they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being plied to the instant application.

Claims 1-20 are pending.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 19 is drawn to a product, a characteristic prediction map, that is merely a displayed result. The final displayed result of manipulated of data by the process of prediction as described in claim 19, constitutes nothing more than reading out the processed result.

See MPEP 2106:

A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is nonstatutory despite the fact that it might inherently have some usefulness.

[...]Examples of claimed processes that do not achieve a practical application include: [...] - step of "transmitting electrical signals representing" the result of calculations (In re De Castelet, 562 F.2d 1236, 1244, 195 USPQ 439, 446 (CCPA 1977) ("That the computer is instructed to transmit electrical signals, representing the results of its calculations, does not constitute the type of post solution activity' found in Flook, [437 U.S. 584, 198 USPQ 193 (1978)], and does not transform the claim into one for a process merely using an algorithm. The final transmitting step constitutes nothing more than reading out the result of the calculations."));

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 1631

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 18 and 20 are indefinite for failing to recite any actions to implement the final process step that agrees back with the preamble. While minor details are not required in method/process claims, at least the basic steps must be recited in a positive, active fashion. For example, claim 1 is drawn to a method for predicting a reaction characteristic of a molecule; the claim recites a final step predicting the value of interest; yet nowhere within the claim is there an action, algorithm, or computation to actually result in the prediction of interest. Lines 41-42 of claim 1 recite the three values space occupied rate, electrostatic factor and steric factor; however the claim lacks an action of implement them for predicting a characteristic value. Although claim 20 is a program stored on a medium, the method that is executed by the program is that of claim 1 and also fails to recite any actions to implement the final process step. Claims 2-17 are also indefinite due to their dependency from claim 1.

As recited in the previous action, claims 4 and 5 recite the limitation "atomic spherical surfaces" in line 2 of both claims. There is insufficient antecedent basis for this limitation in the claim.

Claims 14-17 are vague and indefinite in the manner that it is unclear as to where the steps of producing a reaction characteristic map are to be placed in the methodology of claim 1. Claim 1 is directed to the prediction of a reaction characteristic of a single molecule while claims 14-17 are based upon a plurality of molecules for a plurality of sets for a self-organizing neural network to produce a displayed result. Claim 14 appears to be a new method that encompasses the methodology of claim 1, however is directed to the production of a displayed result.

Claim 19 is vague and indefinite due to the lack of clarity in the claim language "the processed result" in line 62. It is unclear if the result is referring to the characteristic prediction map as "the processed result".

Claim 19 recites the limitation "the processed result" in line 62. There is no antecedent basis for this limitation in the claim.

### ***Claim Objections***

Claims 3-5 and 14-18 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 3 does not further limit claim 1 because the defined surrounding component space of each atom of the molecule in claim 1 (lines 13-15) appears to be the equivalent surrounding space described in claim 3.

Claims 4 and 5 do not further limit claim 1 because the described "interior spherical surface[s]" of claim 4 (line 6) and claim 5, do not appear to be a further requirement of a method recited in claim 1 that concentrates upon the already described "frontier surrounding surface" (line 18), that relies upon the outside surrounding surfaces of the molecule.

Claims 14-17 do not further limit claim 1 because claim 14 is directed to the process of making a characteristic prediction map. Claim 1 is directed to the prediction of a reaction characteristic of a single molecule while claim 14 is based upon a plurality of molecules for a plurality of sets for a self-organizing neural network to produce a displayed result. Claims 15-17 are also directed to the production of the product, a characteristic prediction map.

Claim 18 does not appear to further limit claim 1 in that claim 1 encompasses all that claim 18 performs. There is no clear distinction between the actions performed in claim 1 and those of claim 18 although the wording is different. For example claim 1 is directed to the prediction of reaction characteristics for "each of said component spaces" (lines 45-46) and claim 18 is directed to the same for "each of said atoms" (lines 37-38). However claim 1 recites in lines 14-15 "each component space [...] includes therein each one atom composing the molecule"; thus by claim 1 predicting a reaction characteristic for the entire molecule for each component space, a prediction of the same is determined per atom of all of said atoms of the molecule. Thus claim 18 performs the same actions of claim 1, thus is not further limiting.

### ***Conclusion***

No claim is allowed.

Art Unit: 1631

*Inquiries*

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is (703) 308-4242.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monika B. Sheinberg, whose telephone number is (703) 306-0511. The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward, can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Patent Analyst, Tina Plunkett, whose telephone number is (703) 305-3524, or to the Technical Center receptionist whose telephone number is (703) 308-0196.

June 30, 2002

Monika B. Sheinberg  
Art Unit 1631

*MBS*

*Marianne P. Allen*  
MARIANNE P. ALLEN  
PRIMARY EXAMINER  
(GROUP 1631)  
KU1631